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| APPLICATION NO.                  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|----------------------------------|-------------|----------------------|---------------------|------------------|
| 10/585,780                       | 11/30/2007  | Toshio Narita        | 2006_1115A          | 7855             |
| 513                              | 7590        | 05/26/2010           | EXAMINER            |                  |
| WENDEROTH, LIND & PONACK, L.L.P. |             |                      | LAVILLA, MICHAEL E  |                  |
| 1030 15th Street, N.W.,          |             |                      | ART UNIT            | PAPER NUMBER     |
| Suite 400 East                   |             |                      | 1784                |                  |
| Washington, DC 20005-1503        |             |                      |                     |                  |
| NOTIFICATION DATE                |             | DELIVERY MODE        |                     |                  |
| 05/26/2010                       |             | ELECTRONIC           |                     |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ddalecki@wenderoth.com  
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|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/585,780             | NARITA ET AL.       |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | MICHAEL LA VILLA       | 1784                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 23 April 2010.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-41 is/are pending in the application.  
 4a) Of the above claim(s) 8-16 and 28-37 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-6, 17-20, 22-27, and 38-41 is/are rejected.  
 7) Claim(s) 7 and 21 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 11 July 2006 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>20060711, 20070302</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|   | 6) <input type="checkbox"/> Other: _____ .                        |

## DETAILED ACTION

### ***Election/Restrictions***

1. Applicant's election of Group I, Claims 1-7, 17-27, and 38-41, in the reply filed on 23 April 2010 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 8-16 and 28-37 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 23 April 2010.
3. The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
5. A person shall be entitled to a patent unless –
6. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
7. Claims 1, 2, 4, 6, 17-20, 22-24, 26, 27, and 38-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Narita et al. WO 2003/038152.

Specifically, Narita teaches forming ReW sigma phase diffusion barrier coatings on high temperature apparatus metal substrates, wherein the coatings may further comprise Ni, Co, and/or Fe and wherein the relative amounts of Re and W are in the claimed ranges of Claims 1 and 2. See Narita et al. EP 1449937

(Figure 1; Abstract; and paragraphs 11-30) (translation of Narita et al. WO 2003/038152). Narita teaches that the coatings are applied by sputtering followed by heat treatment and that they may be applied by chemical deposition. Regarding Claim 4, Narita teaches that a stress relief layer comprised of dispersed rhenium may be formed. See Narita (paragraph 28). Regarding Claim 6, Narita et al. teaches alloy coating layers comprising Al, Cr, and Si in the claimed ranges. See Narita (paragraphs 16 and 29; Figures 2-5 and descriptions of NiAl alloy layer compositions in the Examples; e.g., in Table 1, layer 4 is 49.8 at. % Al). Regarding Claims 22-24, Narita teaches further coating with ceramics, which may be considered to be heat resistant and/or wear resistant. See Narita et al. (paragraph 30).

8. Claims 1 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Tuck et al. USPN 4,417,173. Tuck teaches applying Re/W sigma phase alloy coating layer on a metal substrate, wherein the amount of tungsten is in the claimed range. The applied layer would be expected to function as a diffusion barrier inherently. See Tuck et al. (Abstract; col. 2, lines 1-25; col. 3, line 61 through col. 6, line 2).

***Claim Rejections - 35 USC § 102/103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 3 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tuck et al. USPN 4,417,173. Tuck teaches applying Re/W sigma phase alloy coating layer on a substrate, wherein the amount of tungsten is in the claimed range. The applied layer would be expected to function as a diffusion barrier inherently. See Tuck et al. (Abstract; col. 2, lines 1-25; col. 3, line 61 through col. 6, line 2). Tuck may not teach the claimed plating and heating product-by-process limitations. However, the resulting films being Re/W films of sigma phase would be expected to be the same or substantially the same as those encompassed by the claims.

12. Claims 3, 5, and 25 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Narita et al. WO 2003/038152. Specifically, Narita teaches forming ReW sigma phase diffusion barrier coatings on high temperature apparatus metal substrates, wherein the coatings may further comprise Ni, Co, and/or Fe and wherein the relative amounts of Re and W are in the claimed ranges of Claims 1 and 2. See Narita et

al. EP 1449937 (Figure 1; Abstract; and paragraphs 11-30) (translation of Narita et al. WO 2003/038152). Narita teaches that the coatings are applied by sputtering followed by heat treatment and that they may be applied by chemical deposition. Regarding Claims 3, 5, and 25, Narita may not teach the claimed plating and heating product-by-process limitations. However, the resulting films being Re/W films of sigma phase and dispersed rhenium films would be expected to be the same or substantially the same as those encompassed by the claims.

### ***Allowable Subject Matter***

13. Claims 7 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. The reviewed prior art does not teach or suggest the subject matter of Claims 7 and 21. Namely, the reviewed prior art does not teach or suggest the provision of the claimed tungsten dispersed layer in the claimed context.

### ***Conclusion***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL LA VILLA whose telephone number is (571)272-1539. The examiner can normally be reached on Monday through Friday.

16. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil, can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/MICHAEL LA VILLA/  
MICHAEL LA VILLA  
Primary Patent Examiner, Art Unit 1784  
20 May 2010**